05-17-05

TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	09/500,624
Filing Date	February 9, 2000
First Named Inventor	Dean W. Amburn
Art Unit	3628
Examiner Name	Harish T. Dass
Total Number of Pages in This Submission	Attorney Docket Number	2425-000001

OIPE JC MAY 16 2005 PATENT & TRADEMARK OFFICE

ENCLOSURES *(check all that apply)*

- ☒ Fee Transmittal Form
  - ☒ Fee Attached
- ☐ Amendment / Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Response to Missing Parts/ Incomplete Application
  - ☐ Response to Missing Parts under 37 CFR 1.52 or 1.53

- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation Change of Correspondence Address
- ☐ Terminal Disclaimer
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- ☐ After Allowance Communication to Technology Center (TC)
- ☒ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- ☐ Proprietary Information
- ☐ Status Letter
- ☒ Other Enclosure(s) *(please identify below)*:
  Return postcard.

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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Harness, Dickey & Pierce, P.L.C.	Attorney Name DEAN W. AMBURN	Reg. No. 46,517
Signature			
Date	May 16, 2005		

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	Complete if Known
Effective on 12/08/2004. *Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).*	

FEE TRANSMITTAL
for FY 2005

☒ Applicant claims small entity status. See 37 CFR 1.27

	Complete if Known	
Application Number	09/500,624
Filing Date	February 9, 2000
First Named Inventor	Dean W. Amburn
Examiner Name	Harish T. Dass
Art Unit	3628
Attorney Docket No.	2425-000001

TOTAL AMOUNT OF PAYMENT	($) 250

METHOD OF PAYMENT (check all that apply)

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☒ Deposit Account Deposit Account Number: 08-0750 Deposit Account Name: Harness, Dickey & Pierce, P.L.C.

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FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

	FILING FEES		SEARCH FEES		EXAMINATION FEES		
Application Type	**Fee ($)**	**Small Entity Fee($)**	**Fee($)**	**Small Entity Fee($)**	**Fee($)**	**Small Entity Fee($)**	**Fees Paid ($)**
Utility	300	150	500	250	200	100	____
Design	200	100	100	50	130	65	____
Plant	200	100	300	150	160	80	____
Reissue	300	150	500	250	600	300	____
Provisional	200	100	0	0	0	0	____

2. EXCESS CLAIM FEES

Fee Description	**Fee ($)**	**Small Entity Fee ($)**
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180

Total Claims	**Extra Claims**	**Fee($)**	**Fee Paid ($)**
____ -20 or HP=	0	x ____ =	0

HP = highest number of total claims paid for, if greater than 20.

Multiple Dependent Claims

Fee ($)	**Fee Paid ($)**
____	____

Indep. Claims	**Extra Claims**	**Fee($)**	**Fee Paid ($)**
____ - 3 or HP=	0	x ____ =	0

HP = highest number of independent claims paid for, if greater than 3.

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	**Extra Sheets**	**Number of each additional 50 or fraction thereof**	**Fee ($)**	**Fee Paid ($)**
____ - ____ = 0	/ 50 = 0	(round **up** to a whole number) x	=	0

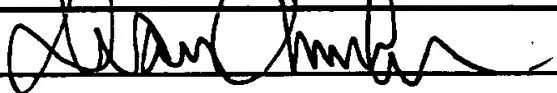### 4. OTHER FEE(S)

	Fees Paid ($)
Non-English Specification, $130 fee (no small entity discount)	____
Other (e.g., late filing surcharge) : Appeal Brief Filing Fee	250

SUBMITTED BY			
Signature	*(signature)*	Registration No. (Attorney/Agent) 46,517	Telephone 248-641-1600
Name (Print/Type)	DEAN W. AMBURN		Date May 16, 2005

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appeal No.: _____

Application No.:	09/500,624
Filing Date:	February 9, 2000
Applicant:	Dean W. Amburn
Group Art Unit:	3628
Examiner:	Harish T. Dass
Title:	Method And Apparatus For Automated Trading of Equity Securities Using A Real Time Data Analysis
Attorney Docket:	2425-000001

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450
Mail Stop: Appeal Brief-Patents

BRIEF ON BEHALF OF APPELLANT

This is an appeal from the action of the Examiner dated December 16, 2004, finally

rejecting claims 30-33, 35 and 37-46 of the present application. Copies of the appealed

claims are attached as an appendix.

TABLE OF CONTENTS

I. Real Party In Interest

The real party in interest is Dean W. Amburn, the inventor.

II. Related Appeals and Interferences

There are no known related appeals or interferences which will directly affect or be directly affected by or otherwise have a bearing on the Board's decision in the pending appeal.

III. Status Of The Claims

Claims 1-46 are pending in this application. Claims 1-29, 34 and 36 are withdrawn from consideration. Claims 30-33, 35 and 37-46 stand rejected and are appealed.

IV. Status Of Amendments

No amendments have been filed subsequent to the December 16, 2004 Final Office Action.

V. Summary of the Invention

Applicant's invention is directed generally to a method and system for computer-implemented automated buying and selling a security based on a user defined decision model where the user defined decision model receives a continuous stream of data and makes a decision to buy or sell the security on a continuing basis until the process is stopped.[1]

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[1] See Substitute Specification paras. [0014] to [0022] and [0045] to [0108] with reference to Figs. 1-11.

As described in applicant's specification the method and system of the invention allows for security traders to define decision models to determine when to buy <u>and</u> sell the security.[2] The method and system allows a trader, for example, a day trader, to custom design a decision model for buying and selling a security. In practical application, it would be desired to define a decision model that buys a security while a wave of momentum carries the security price higher and then sell the security when the momentum ends or other factors come into play.

The client defined decision model receives data for example, real-time security data and possibly market data. As explained in the specification the security data could include the real-time date available for a security during market hours including price, bids, asks, spread, market maker information including their current bids/asks and other information. The decision model provides a result based on the data which is then compared to a decision point to decide whether to buy or sell. Data is continuously feed into the decision model.[3]

An important advantage of the invention is the ability of the user to design decision models based on the user's own determination of how best to decide whether to buy and/or sell a security. In other words, the user has ultimate control in designing and implementing the decision model. The construction of the decision model is only limited by the user's imagination and willingness to take risk.

Another advantage of the invention is the ability to buy <u>and</u> sell the security rather than just buy the security and manually enter an order to sell. Importantly, this allows buy

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[2] See Substitute Specification paras. [0047] to [0069].
[3] See Substitute Specification paras. [0041] to [0047], [0079] to [0082].

and sell transactions of the security to be repeated multiple times. This is consistent with attempting to follow momentum of the security which can fluctuate throughout the trading day. In other words a trader can initiate the system with the decision model in place and it will buy and sell the security repeatedly until stopped.

As an example, a user-defined decision model could be based on whether one moving average of security data is greater than another moving average. For example, one moving average could be based on an average of the inside bid over a shorter period and another moving average could be based on an average of the inside bid over a longer period. Further to this example consider the following expression:

If f(Comp-1) $\geq$ f(Comp-2) then BUY (the security)[4]

In this example, the functions of Comp-1 and Comp-2 are compared. This could be comparison of the two moving averages where the moving averages are defined by the user. Further, the moving averages receive data and are constantly changing based on the dynamic nature of the data. Thus, the user is able to establish a dynamic relationship between data for a security and a decision to buy the security.

This is intended to be a simple illustrative example of how the method and system may work in accordance with the invention. It is anticipated and intended that users would develop much more complex decision models that take into account many factors in the decision process where the factors can be defined in terms of a mathematical function of data and where the functions receive data and continuously provide results that are considered in a decision to buy or sell.

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[4] *See* Substitute Specification, para. [0090] and related paragraphs together with reference to Figs. 5-6.

Applicant's specification provides detail about preferred embodiments of the invention. This includes an illustration and description of the overall system and examples similar to the example described above. (See Substitute Specification paragraphs [0035] to [0107] in relation to Figures 1-11).

VI. Issues

A. Whether claims 30 and 44-46 are patentable over Lupien (U.S. 5,845,266) in view of Tertitski (U.S. 6,493,681), pursuant to 35 U.S.C. § 103(a).

B. Whether claims 31-33 are patentable over Lupien in view of Tertitski, and further in view of Kane (U.S. 6,317,728), pursuant to 35 U.S.C. § 103(a).

C. Whether claims 35 and 37-43 are patentable over Lupien in view of Kane and Buist (U.S. 6,408,282), pursuant to 35 U.S.C. § 103(a).

D. Whether the Examiner clearly set out the basis for his rejections and precisely identified the alleged similarities and differences between the clamed subject matter and the alleged prior art.

VII. Grouping of Claims

Applicant asserts that claims 30-33, 35 and 37-46 stand individually and do not fall together. The reasons why the claims are separately patentable are explained herein.

VIII. Arguments

A. Claims 30 and 44-46 are _not_ rendered obvious by Lupien (U.S. 5,845,266) in view of Tertitski (U.S. 6,493,681) and do not fall together

1. Independent claims 30 and 44 contain patentable subject matter

As will be explained in greater detail the cited references of Lupien and Tertitski in combination or individually simply do not teach or suggest the elements of claims 30 and 44-46. In fact both references are easily distinguishable as directed to entirely different systems and are non-analogous to the automated trading system of the invention.

Claims 30 and 44-46 do contain patentable subject matter. Claim 30 is directed to a method for trading a security through a network accessible <u>brokerage</u> comprising:

"receiving from a client of the network accessible brokerage at least one computer implemented decision model for the security <u>wherein the decision model comprises a mathematical function for receiving data and providing at least one value wherein the at least one value is compared to a decision point for deciding to buy or sell the security</u>."

Claim 44 is directed to "An automated trading system for trading securities through an network accessible <u>brokerage</u>" has similar language. This claim language describes receiving from a client a decision model that comprises a mathematical function that receives data and provides a value that is compared to a decision point. This is contrasted with traditional trading systems where a client submits a value, for example, a value representing the price that the client is willing to pay for a security. This language also distinguishes a "network accessible brokerage" from a security market itself, wherein the actual buying and selling of the security takes place.

The method of the invention as described in claims 30 and 44 advantageously allows for a client to define in the form of a mathematical function a decision model that will determine whether to buy or sell a security. The client submits the decision model to the brokerage for monitoring and directing the automated buying <u>and</u> selling of the security. This method and system allows the client to define buying and selling as a dynamic relationship based on a function of data. This dynamic relationship is different from a direct relationship, for example a decision to buy if a security reaches a certain price. In a direct relationship the client may indicate a willingness to buy or sell only if a security reaches a certain price (or is less than a certain price) but otherwise there is no possibility of a transaction.

The ability to define a dynamic relationship through a mathematical function allows a client the opportunity to design their own decision model and implement creative and novel ideas in how security transactions will be made. A dynamic relationship allows for developing a decision model for both buying <u>and</u> selling the security. The method of the invention is therefore distinguishable from any system that dictates buying or selling based on a direct (rather than dynamic) relationship between the decision model and the deciding factor. The method of the invention is also fundamentally distinguishable from any system that does not first automatically buy and then automatically sell a security based on the decision model.

In addition to submission of a decision model comprising a mathematical function claim 30 provides for:

"<u>inputting data into the decision model;</u>

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<u>computer implemented monitoring the decision model</u> for the decision to buy the security wherein monitoring the decision model comprises comparing the at least one value to the decision point;

in response to monitoring said decision model, automatically generating a buy transaction order for the security; and

automatically transmitting the buy transaction order to a market computer;

after the step of transmitting the buy transaction, monitoring the decision model;

in response to monitoring said decision model, automatically generating a sell transaction order for the security; and

automatically transmitting the sell transaction order to the market computer."

Thus, claim 30 provides for buying <u>and</u> selling the security with a market computer based on a monitoring of the decision model as data is input into it. This is fundamentally different from the teaching of the cited references.

2. Lupien does not teach or suggest a method for trading a security wherein a client is offered the opportunity to submit a mathematical function as a decision model

Lupien does not teach or suggest a method for trading where a client is offered the opportunity to submit into the system a mathematical function as a decision model that defines a dynamic relationship between data and the decision to buy/sell. For this reason

alone, among others as will be explained, the rejection of claims 30-33 and 44-66 should be withdrawn.

Regarding claim 30 the Examiner states that "Lupien discloses receiving from a client of the network accessible brokerage at least one computer implemented decision model (satisfaction density) for the security wherein the decision model comprises a mathematical function for receiving data and providing at least one value wherein the at least one value is compared to a decision point for deciding to buy or sell the security, and inputting data into the decision model." (See Office Action dated December 16, 2004, hereinafter "OA", page 2, lines 13-18). The Examiner cites the "entire document" including several sections of Lupien in support of this statement.

The Examiner provides no further guidance on how Lupien purportedly discloses each of these elements. For example, there is no explanation about specifically how Lupien has a decision model comprising a mathematical function or how the mathematical function receives data. The failure to provide specific support for the Examiner's statements makes it difficult to respond.

However, Lupien simply does not teach or suggest the method or system as claimed. Specifically, Lupien does not teach or suggest a method for trading a security through a network accessible brokerage since Lupien is directed to a "crossing network" that matches buy and sell orders based upon a satisfaction in quantity profile. Second, Lupien does not teach or suggest inputting data into a decision model after it has been received from a client even assuming for the sake of argument that the satisfaction density profile of Lupien is a decision model.

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The Examiner cites Lupien, Col. 4, lines 19-36 in support of his statement. This section of Lupien, however, would support that Lupien is directed to a market not a brokerage and that the satisfaction density profile does not receive inputted data. This section of Lupien provides:

"once the satisfaction density profile is complete, the trader crosses the satisfaction density profile to be transmitted to a central matching controller ('CMC') which anonymously matches buy and sell orders as discussed below. ... Upon transmission of a satisfaction density profile to the CMC, the CMC will cause both buy profiles to be stored in a buy profile database and sell profiles to be stored in a sell profile database. The CMC will then calculate for every buyer/seller profile pair, a mutual satisfaction cross product profile." Lupien at Col. 4, lines 24-36.

By calculating a buyer/seller profile pair for matching buyers and sellers clearly Lupien discloses a security market and not a brokerage to facilitate the sale with a security market. In Lupien there is no need to transmit a buy/sell order to a market computer since the system in Lupien is the market.

Further, in Lupien there is no inputting of data into the satisfaction density profile (i.e. the alleged decision model). According to Lupien price and quantity information is input into the satisfaction density profile and it is submitted for comparison to other satisfaction density profiles. Further, the "CMC will then calculate for every buyer/seller profile pair, a mutual satisfaction cross product profile." See Lupien at Col. 4, lines 35-36.

In Lupien the satisfaction density profile contains price and volume values of a buyer to compare with price and volume values of a seller. Price and volume data is not a mathematical function. In Lupien there is no mathematical function (i.e. decision model) for inputting data into.

3. Lupien does not teach or suggest monitoring a decision model, generating a transaction order or transmitting the order to a market computer

The Examiner further states that Lupien discloses "in response to monitoring said decision model, automatically generating a buy transaction order, and automatically transmitting the buy transaction order to the market computer." (See OA, page 2, lines 19-21). Lupien in fact does not teach or suggest this.

In particular, there is no monitoring of a decision model (i.e., the satisfaction density profile) nor is an order to buy automatically generated based on monitoring the decision model, nor is a buy transaction order transmitted to a market computer. As indicated in the previously quoted section of Lupien the satisfaction density profiles are transmitted to a central matching controller ("CMC") where the "buy/sell orders represented by the ranked grid values of the mutual satisfaction cross products are then matched in order, and matching trades are aggregated by the CMC system. The matching process then continues down the ranked list." Lupien at Col. 4, lines 24-46.

"Monitoring" as applied to the invention in claim 30 means that data is input into the client provided decision model comprising a mathematical function on a continuous basis thus the result of the mathematical function is continuously changing and requires monitoring for a decision to buy or sell.

Clearly, the "matching" of Lupien is different from monitoring. The "matching" of Lupien is also different from generating a transaction order or transmitting the transaction order to a market computer. The "matching" of Lupien fundamentally distinguishes Lupien from claims 30 and 44. Therefore, in Lupien there is no monitoring of the satisfaction density profile and there is no generation of a sell transaction order or transmission of a sell transaction order to a market computer.

4. Tertitski does not teach or suggest monitoring the decision model

The Examiner admits that Lupien does not "explicitly disclose computer implanted monitoring the decision model for the decision to buy the security wherein the monitoring the decision model comprises comparing the at least one value to the decision point." (See OA, page 3, lines 2-5). However, the Examiner states that Tertitski discloses these steps. The Examiner provides no detail regarding what in Tertitski is the decision model or how the decision model is monitored or how it comprises comparing at least one value to a decision point. Regardless, Tertitski does not teach or suggest this.

Tertitski is directed to "a system and method for generation of strategies of investment . . .." See Tertitski abstract. Tertitski does not appear to teach or suggest any form of a system for <u>trading</u> securities, rather, it is directed to a category of systems that recommend trades. For this reason, Tertitski is fundamentally distinguishable and non-analogous art to the invention.

In Tertitski "the system calculates capital gains for different strategies in the form of a strategy matrix 3 using the historical stock data over a period of analysis." See Tertitski at Col. 3, lines 22-24. While Tertitski also discloses various formulas used in generating

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a recommendation, there is no teaching or suggestion that any of these formulas could be modified or more importantly that these formulas are provided by the system user. For these reasons, clearly Tertitski does not teach or suggest computer implemented monitoring a client submitted decision model. Nor does Tertitski teach or suggest any of the steps of claim 30.

5. The combination of Lupien and Tertitski does not establish a *prima facie* case of obviousness

The Examiner next states that it would have been obvious to one skilled in the art at the time the Applicant's invention was made to "modify the disclosure of Lupien and include monitoring, decision model for decision to buy securities and comparison, as disclosed by Tertitski, to provide buy, sell or hold recommendation of securities." (See OA, page 3, lines 9-11). There are several reasons why this combination does not establish a *prima facie* case of obviousness.

First, neither Lupien nor Tertitski either individually or in combination teach or suggest all of the limitations of claims 30 or 44. For example, neither Lupien nor Tertitski teach or suggest "receiving from a client of the network accessible brokerage at least one computer implemented decision model for the security wherein the decision model comprises a mathematical function for receiving data and providing at least one value wherein the at least one value is compared to a decision point for deciding to buy or sell the security." (See claim 30). Nor does Lupien or Tertitski teach or suggest monitoring a decision model or submitting an order to a market computer. More fundamentally, neither teach nor suggest a system that prepares an order to buy a security and an order to sell the same security based on the decision model.

Further, the Examiner never explains exactly what in Tertitski is combined with what in Lupien to purportedly create the invention. This is one of the requirements to establish a prima facie case of obviousness.

In addition, no substantive reason is provided for combining the references. This is a requirement according to the Court of Appeals for the Federal Circuit (CAFC), as held in *In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) and *In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000).

Both of these cases set forth very rigorous requirements for establishing a *prima facie* case of obviousness under 35 U.S.C. § 103(a). To establish obviousness based on a combination of elements disclosed in the prior art, there must be some motivation, suggestion, or teaching of the desirability of making the specific combination that was made by the applicant. The motivation, suggestion or teaching may come explicitly from one of the following: (a) the statements in the prior art (patents themselves), (b) the knowledge of one of ordinary skill in the art, or in some cases, (c) the nature of the problem to be solved.

See *Dembiczak* 50 USPQ at 1614 (Fed. Cir. 1999). In *Kotzab*, the CAFC held that even though various elements of the claimed invention were present (in two separate embodiments of the same prior art reference), there was no motivation to combine the elements from the separate embodiments, based on the teaching in the prior art.

In order to establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a), the Examiner must provide particular findings as to why the two pieces of prior art are

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combinable.   See *Dembiczak* 50 USPQ2d at 1617.   <u>Broad conclusory statements</u> <u>standing alone are not "evidence."</u>

The Examiner's purported motivation for combining Lupien with Tertitski is "to provide buy, sell or hold recommendation of securities."   This is inapposite to the invention where the purpose is to automate trading (buying and selling) of a security based on a decision model.

Further, this is not explicitly suggested in Lupien or Tertitski and is not necessarily common knowledge in the art, and does not result from the nature of any problem to be solved.

In addition, the Examiner does not establish the specific understanding or principle within the knowledge of the skilled artisan that would have provided motivation to change the satisfaction density profile of Lupien into the system of Tertitski.   There would be no motivation to make such a modification since the intended benefit of the crossing network of Lupien is lost as a result of this proposed change.

According to Lupien its invention "provides a richer means of price discovery than is available in any existing market structure, including exchanges.   In steady-state operation, where all feasible matches have been performed and the system is awaiting the next profile input, there will exist a group of unfilled buy satisfaction density profiles and a group of unfilled sell satisfaction density profiles, with no overlap between the two groups (otherwise a match would be performed).   The two-dimensional price/size region between these groups is denoted the 'spread region,' and depicts, at each value of size, the spread between the highest non-zero buy satisfaction profile price and the lowest

non-zero sell satisfaction profile price. This depiction of the aggregate of unfilled satisfaction profiles is a significant generalization of the market quotes currently provided by exchanges and market makers, and obviates the need for parasitic pricing inherent in other crossing networks. It also provides substantially greater price discovery across the full range of trade size than is contained in the current quotations of best-bid and best-offering prices and corresponding sized." Lupien at col. 5, lines 5-25.

Clearly the satisfaction density profile of Lupien is central to providing the desired functionality of price discovery in the crossing network. There would be no motivation or desire to one skilled in the art to change the satisfaction density profile of Lupien into the buy/sell recommendation of Tertitski since there would be no ability for display of a price/size region between buyers and sellers as advantageously suggested in Lupien.

In fact, in Lupien the intended fundamental function as a crossing network would be lost as a result of the Examiner's suggested modification. In a crossing network buyers and sellers are matched based on criteria (e.g. price and number of shares) that each trader is willing to enter into a trade for a particular security. Conversely the system of Tertitski makes buy/sell recommendations based on formulas but does not issue buy or sell orders. Therefore, the crossing network of Lupien would lose its functionality as a crossing network if modified to replace the satisfaction density profiles with the buy/sell recommendations of Tertitski. Therefore, the Examiner's suggested modification would change the principle of operation of Lupien and result in an unworkable third system.

Accordingly, Applicant respectfully submits that claims 30 and 44-46 are allowable for at least the above reasons, including that examiner has failed to establish a proper

prima face case of obviousness under 35 U.S.C. 103(a) in view of *Dembiczak* and *Kotzab*.

6. The Examiner relies on impermissible hindsight reconstruction to reject the claims

Further, Appellant submits that combining the teachings of Lupien with the teachings of Tertitski uses impermissible hindsight reconstruction to reject the claims. The Examiner has used the present application as a blueprint, selected a prior art vehicle in Lupien as the purported main source, and then attempted (unsuccessfully) to search other prior art for the missing elements, without identifying or discussing any specific evidence of motivation to combine, other than providing conclusory statements regarding the knowledge in the art, motivation and obviousness.

The Federal Circuit has noted that the USPTO and the courts "cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention," and that the best defense against hindsight-based obviousness analysis is the rigorous application of the requirement for a showing of a teaching or motivation to combine the prior art references. *In re Fine*, 837 F.2d 1071, 1075, 5 USPQ2d 1596 (Fed. Cir. 1988). Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability--the essence of hindsight. *Dembiczak*, 50 USPQ2d at 1617. The Examiner's use of hindsight reconstruction is consistent throughout all the rejections appealed.

7.   Claims 44-46 contain patentable subject matter

Regarding claims 44-46 the Examiner states that Lupien discloses a decision model "wherein the at least one decision model **enters a state comprising a buy state and a sell state** ... (emphasis added)."[5] Unlike claim 44 the satisfaction density profile of Lupien (i.e. the alleged decision model) does not comprise logic for buying **and** selling the security. In Lupien there is either a buy satisfaction density profile or a sell satisfaction density profile for a particular security. Nor does the satisfaction density profile of Lupien enter a state including a buy state or a sell state. In Lupien a match is made and trades result. Also there is no data input into the satisfaction density profile after it is submitted for matching with other satisfaction density profiles. For these reasons together with the reasons previously discussed neither Lupien nor Tertitski individually or in combination teach or suggest the invention of claims 44-46. As also discussed the combination of Lupien and Tertitski does not establish a *prima facie* case of obviousness.

B.   Claims 31-33 are <u>not</u> rendered obvious by Lupien and Tertitski, as applied to claim 30 (discussed above), and further in view of Kane (U.S. 6,317,728), and do not fall together

1.   Lupien does not disclose canceling an order to sell based on monitoring a decision model since in Lupien admittedly there is no monitoring

Regarding claims 31-33 the Examiner states that "Lupien discloses canceling the sell order if the decision model indicates a trade is undesirable." (See OA, page 5, lines

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[5] In an Office Action mailed March 26, 2004 the Examiner alleged that Lupien disclosed that its purported decision model comprised "logic for buying and to buy [sic] or sell a security..." The Examiner decision to eliminate this language is a telling concession that Lupien does not have this element as required by claim 44.

4-5). Lupien does not teach or suggest this. The sections of Lupien cited by the examiner including column 11, lines 1-22 and column 19, lines 22-40 say nothing about canceling a sell order if the satisfaction density profile (i.e. the alleged decision model) indicates a trade is undesirable. In Lupien there is no opportunity to cancel an order based on a decision model because as previously stated in Lupien "buy/sell orders represented by the ranked grid values of the mutual satisfaction cross products are then matched in order, and matching trades are aggregated by the CMC system." Lupien at col. 4, lines 24-46. In Lupien once the buy/sell orders are matched a trade is effectively made. As the Examiner has admitted Lupien does not teach or suggest the step of monitoring a decision model. Since there is no monitoring of a decision model there cannot be canceling of an order based on (monitoring) a decision model.

2. **The Examiner does not provide any support for the allegation that initiating a floating stop loss in a an automating trading system as described in claim 30 is "known"**

Regarding claims 32 and 33 **the examiner admits that Lupien does not teach or suggest:**

"wherein the step of generating a transaction order comprises after the step of generating a sell order, monitoring the sell order until the order is filled, monitoring the decision model, after the step of transmitting the buy transaction order to the market computer, confirming the buy transaction, initiating a floating loss, and monitoring the floating stop loss for a stop loss decision to sell the security, and if a stop loss decision to sell is reached then automatically transmitting a stop loss sell transaction order for the

security to the market computer, and floating stop loss comprises a dynamic stop loss." (See OA, page 5, lines 5-13).

The Examiner then alleges that "after the step of transmitting the buy transaction order to the market computer and confirming the buy transaction, initiating a floating loss **are known**." (See OA, page 5, lines 13-14). The **Examiner fails to provide any support for this allegation**. It is asserted by the Applicant that it is not commonly known to have an automated trading system as described in claim 30 confirm a transaction and then automatically initiate a floating stop loss process. The Examiners unsupported statement fails to establish a *prima facie* case of obviousness.

3. **Tertitski does not disclose monitoring a decision model, monitoring a floating stop loss, or sending an order to sell to a market computer**

The Examiner states that Tertitski "discloses monitoring the decision model, monitoring the floating stop loss for a stop loss decision to sell the security, and if a stop loss decision to sell is reached then automatically transmitting a stop loss sell transaction order for the security to the market computer ..." (See OA page 5, line 15) Tertitski does not teach or suggest this.

As already discussed, Tertitski is directed to using provided formulas for calculating capital gains for different strategies. There is no monitoring of a decision model since data is input into the provided formulas and a strategy recommendation is made. "Monitoring" as applied to the invention in claim 30 means that data is input into the client provided decision model comprising a mathematical function on a continuous

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basis thus the result of the mathematical function is continuously changing and requires monitoring for a decision to buy or sell.

Further, Tertitski says nothing about a floating stop loss. Again, there is no need for a floating stop loss in Tertitski since Tertitski discloses making recommendations but does not disclose submission of orders to a market much less a market computer.

4. Kane does not disclose monitoring an order until it is filled or initiating a dynamic stop loss

The Examiner states that Kane discloses "monitoring the sell order until the order is filled and floating stop loss comprises a dynamic (continuously) stop loss ..." (See OA page 5, line 21 to page 22, line 2). Kane does not teach or suggest this. Kane discloses nothing about monitoring an order once placed. Further, a floating stop loss and dynamic floating stop loss as described in the specification[6] does not exist in the disclosure of Kane. A "stop loss" is different from a "floating stop loss" or a "dynamic floating stop loss" as explained in the specification.

5. The combination of Lupien, Tertitski and Kane does not establish a *prima facie* case of obviousness

The Examiner states that it would have been obvious to "modify the disclosure of Lupien and include step of generating order and monitoring the decision model, monitoring the floating stop loss, as disclosed by Tertitski and Kane, to trade securities based of sound decision model and rules." (See OA page 6, lines 3-7). As already stated, in Lupien there is no need to monitor a decision model since the "matching" of buy/sell orders is the transaction. For these reasons and the reasons already discussed

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[6] See Substitute Specification para. [0101] to [0104] with reference to Fig. 10.

neither Lupien nor Tertitski nor Kane individually or in combination teach or suggest the invention of claims 31-33.

Further, the Examiner's generalized conclusion does not provide the necessary specificity as to a basis for the motivation to combine the references. As a result the combination of Lupien, Tertitski and Kane does not establish a *prima facie* case of obviousness. It again appears that the Examiner is relying on impermissible hindsight in an unsuccessful attempt to cobble together elements of the rejected claims.

In addition, the combined system of Lupien, Tertitski and Kane would not work. The resulting system would not function since Lupien, Tertitski and Kane are disparate systems with divergent purposes that do not logically combine to create a fourth system.

Finally, as already discussed the primary reference, Lupien is directed to a crossing network based on price and volume. Its stated advantages would be lost based on the attempted combination. As a result the combination of Lupien, Tertitski and Kane does not establish a *prima facie* case of obviousness.

C.   Claims 35 and 37-43 are <u>not</u> rendered obvious by Lupien in view of Kane and Buist (U.S. 6,408,282) and do not fall together

1.   Lupien does not teach or suggest the steps of claim 35

Regarding claim 35 the Examiner states that Lupien "discloses receiving at least one computer implemented buy decision model for the security, and receiving at least one computer implemented sell decision model for the security, and providing a computer implemented monitoring process for monitoring (observing) the decision models for a buy decision and/or a sell decision ..." (See OA, page 6, lines 10-14). Lupien does not teach

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or suggest this. In Lupien there is no suggestion or motivation to prepare both a buy satisfaction density profile and a sell satisfaction density profile for the same security and initiate a matching of the satisfaction density profiles. This is an inherent limitation to Lupien since in the matching process when buy profiles are matched with sell profiles an investor could be buying and selling the security with himself.

Nor does Lupien teach or suggest a transaction approval process as stated by the Examiner. The Examiner's basis for this remark is the presence in Lupien's abstract of a reference to accommodating stock exchange rules. However, accommodating stock exchange rules is not explained in Lupien as a step taken after indication of a transaction by a decision model to approve of the transaction before it is entered into.

Nor does Lupien teach or suggest a computer implemented transaction submission process for submitting a transaction to buy or sell the security to a market computer as stated by the Examiner. In Lupien the crossing network system itself is the market.

Nor does Lupien teach or suggest inputting data into the decision model. The decision model of Lupien, according to the Examiner, is the satisfaction density profile. The satisfaction density profile once created does not accept data. Instead it is matched with buy/sell orders in other satisfaction density profiles. In Lupien there is no inputting of data into the decision model.

Nor does Lupien teach or suggest submitting an order to buy/sell based on a buy/sell decision of a decision model. In Lupien the buy/sell orders contained in satisfaction density profiles are matched resulting in a transaction.

Nor does Lupien teach or suggest continuing inputting data into the decision model (i.e. satisfaction density profile). Again, the buy/sell orders in the satisfaction density profile of Lupien are matched resulting in transactions. There is no continuing inputting data into the satisfaction density profile after it is matched.

Nor does Lupien teach or suggest repeating the steps of inputting data and monitoring a decision model if a buy decision is reached or a sell decision is reached. First, as already discussed Lupien does not teach or suggest that the satisfaction density profile is for buying and selling the security. Second, in Lupien once the satisfaction density profile is satisfied by matching it with another satisfaction density profile the process stops. There is no repeating of the process steps.

2. Kane does not teach or suggest the steps of claim 35

The Examiner states that Kane discloses what is not disclosed by Lupien including "providing a computer implemented transaction approval process on the brokerage computer system." (See OA, page 8, lines 4-5). The Examiner refers to "Fig.1 device connected to # 20" in support. (See OA, page 8, lines 5-6). However, Fig. 1 of Kane does not have an item no. 20. Notwithstanding, in Kane a transaction order is sent to a brokerage, for example E-Trade to be filled. This means that the system of Kane does not exist on a brokerage computer system. Instead the system of Kane appears to communicate with a brokerage computer system.

3. Buist does not teach or suggest the steps of claim 35

Buist does not teach or suggest the process of claim 35 for "automated trading of a security through a brokerage computer system in communication with a client computer

system." In fact, Buist fails to disclose any form of an automated trading system or process. Instead, Buist is directed to and discloses a trading system that does not automatically prepare and automatically submit an order to buy or sell a security to a market computer based upon logic in a decision model. In Buist it appears that operator intervention is required in deciding if a trade is desirable and/or in placing the order. For example, Buist discloses a user viewing a final verification screen and selecting a "send" button to transmit the order. Buist at Col. 9, lines 62-67. Buist teaches none of the steps of claim 35.

4. The Examiner's statements regarding what is "known" are unsupported and inapposite to the steps of claim 35

The Examiner states that "It is known that the broker's job is to monitor the market whether it is in person or computerized monitoring tools to watch the trend." (See OA, page 9, lines 1-3). The Examiner provides no support for this statement. Claim 35 requires providing a "computer implemented monitoring process on the brokerage computer system for monitoring the decision models for a buy decision and/or a sell decision." Claim 35 also provides for "monitoring the decision models through the monitoring process for the buy decision and/or the sell decision." Therefore, to the extent that brokers would monitor securities on a computer does not mean that there is a computer implemented monitoring process. Nor does it have anything to do with monitoring a buy and sell decision model submitted through a client computer system to a brokerage computer system.

5. The combination of Lupien, Kane and Buist fails to establish a *prima facie* case obviousness

The Examiner states that it would have been obvious to modify the disclosure of Lupien and "include monitoring the decision models through brokerage network, and describe the system architect of on-line (Internet or day-trading) as discloses by Kane and Buist, to provide system view and system monitoring capability using user interface (GUI) or automatic evaluating decision logic to monitor a portfolio of stocks in real time which can shield an investor from loss while maximizing gain." (See OA, page 9, lines 6-12).

There are several reasons why this combination does not establish a *prima facie* case of obviousness. Several of these reasons have already been discussed herein. Adding Buist does not change the previously discussed fundamental flaws with the proposed combination.

The proposed combination does not teach or suggest all of the limitations of claim 35. Second, the Examiner does not explain the motivation for making this combination. Third, the Examiner relies upon impermissible hindsight. Fourth, the proposed combination would not function as implied by the examiner. The resulting combination would render the system disclosed in Lupien unfit for its stated purpose of providing for a matching of buyers and sellers while allowing for price discovery. See Lupien col. 5, lines 5-25.

6. The Examiner fails to establish a prima facie case of obviousness for claim 37

Regarding claim 37 all of the above stated reasons support distinguishing the cited references and explaining why a *prima facie* case of obviousness is not supported. Claim 37 stands in its own right as patentable on the basis that it requires "<u>inputting data into the one or more decision models until the process is stopped</u>" and "<u>iteratively repeating steps</u>" including "<u>monitoring the one or more decision models using the monitoring process, for the decision to buy and/or the decision to sell;</u>" and "<u>if the decision to buy or the decision to sell is reached then determining using the transaction approval process if a buy or sell transaction is appropriate and is so then automatically submitting using the transaction submission process an order to buy or sell the security.</u>" None of the cited references teach or suggest these steps either individually or in combination. Therefore, reconsideration and withdrawal of the rejection of claim 37 is requested.

7. **The Examiner fails to establish a prima facie case of obviousness for claims 38-39**

Regarding claims 38-39 the Examiner states that Lupien discloses that "the decision model comprises a moving average calculation of at least a portion of the data ... and wherein the decision model comprises a weighted data process." (See OA, page 11, lines 12-15). The Examiner cites col. 2, lines 62-67 and col. 23, lines 1-20 of Lupien in support of this statement. However, the discussion in Lupien regarding averaging and weighting does not state that any averaging or weighting is part of the satisfaction density profile (i.e. the purported decision model) as provided by the client. Lupien does not disclose a decision model comprising a moving average or a weighted data process as

claimed.[7] Therefore, reconsideration and withdrawal of the rejections of claims 38-39 is requested.

> **8. Neither Lupien nor Kane teach or suggest a floating stop loss or a dynamic floating stop loss and the Examiner fails to establish a prima facie case of obviousness for claims 40-43**

Regarding claims 40-43 the Examiner states that Kane discloses automatically initiating a floating stop loss process for selling the security wherein either the floating stop loss process or the decision model can reach a decision to sell the security, and wherein the stop loss is a dynamic floating stop loss. Kane does not teach or suggest this functionality as part of the trading system disclosed in Kane. The floating stop loss as described in the specification is different from a traditional stop loss. Further, a dynamic stop loss also differs from a traditional stop loss as described in the specification. By calling it "dynamic" the stop loss is meant to be changing, not "monitoring stocks continuously" as stated by the examiner. Therefore, reconsideration and withdrawal of the rejections of claims 40-43 is requested.

> **D. The Examiner did not clearly set out the basis for the rejections and did not precisely identify the alleged similarities and differences between the claimed subject matter and the alleged prior art**

The Examiner relies on the Lupien, Tertitski, Kane and Buist references in support of the 35 U.S.C. § 103(a) rejections. For each of these references the Examiner makes very broad generalized statements regarding the reference's teachings. With only a few exceptions the Examiner does not specifically identify the language in the reference that

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[7] See Substitute Specification paras. [0048] to [0096] for discussion of moving average and weighted data process.

is relied upon in support of statements made in the office action. Instead, the Examiner refers to the entire reference or several large sections of text. This denies the Applicant the opportunity to confront the support backing up the Examiner's statements especially when the Applicant has read each of the references repeatedly and cannot find any support for many of the statements made by the Examiner.

Moreover, Applicant has challenged the Examiner to provide additional detail in responding to earlier office actions where the same reference was cited. For example, the Examiner has cited Lupien in several earlier office actions. In responding Applicant has stated that Lupien does not contain the teachings as asserted by the Examiner. Rather than confront the Applicant with specific support in subsequent office actions the Examiner simply makes the exact or near exact same statement regarding the teaching with no additional explanation.

Applicant appreciates the hard work of the Examiner in thoroughly examining Applicant's application. However, Applicant respectfully requests that any citation to purported teachings of a reference be supported by specific citation to the exact language in the reference that supports the purported teachings. Without this information the Examiner has not supported a *prima facie* case of obviousness.

The deferential judicial review under the Administrative Procedure Act does not relieve the agency (in this case the Examiner) of the obligation to develop an evidentiary basis for its findings. To the contrary, the Administrative Procedure Act reinforces this obligation. See, e.g., *Motor Vehicle Manufacturers Ass'n v. State Farm Mutual Automobile Ins. Co.,* 463 U.S. 29, 43 (1983) ("the agency must examine the relevant data
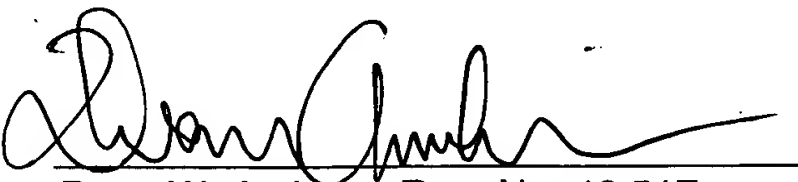
and articulate a satisfactory explanation for its action including a 'rational connection between the facts found and the choice made.'") (quoting *Burlington Truck Lines v. United States*, 371 U.S. 156, 168 (1962). In this respect, the Examiner has not provided the requisite detail regarding the basis for the rejection of the claims.

Further, in *In re Sang Lee*, 277 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002) the CAFC recently reiterated the need to provide an evidentiary basis for the Examiner's finding. Appellant submits that the Examiner has failed to provide support that the cited references teach or suggest the elements of the claims. Nor has the Examiner supported any hint or suggestion in Lupien, Tertitski, Kane or Buist to support the alleged combinations. Therefore, Applicant respectfully requests reconsideration and withdrawal of the rejections of claims 30-33, 35 and 37-46.

IX. Conclusion

In view of the above-presented discussion, Applicant believes that the rejected claims are patentably distinguishable over the art cited by the Examiner. Accordingly, Applicant respectfully requests that this Board reverse the final rejection of Claims 30-33, 35 and 37-46.

Respectfully submitted,

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IX. APPENDIX

Claims on Appeal

1.   (Withdrawn) An automated securities trading system comprising:

means for formulating decision models for securities;

means for monitoring real-time market data;

means for automatically generating a transaction order in response to said data

and said decision models; and

means for transmitting the transaction order to a market computer.

2.   (Withdrawn) An automated securities trading system as recited in claim 1

wherein said decision model comprises:

a plurality of levels linked to others of said plurality of levels by Boolean-type logic

operators;

said levels containing a plurality of components;

said components comprising market data or functions of market data; and,

decision points for said components.

3.   (Withdrawn) An automated securities trading system as recited in claim 1

wherein said means for transmitting an order comprises means for placing a buy order, a

sell order, a sell short order and a buy to cover order.

4.   (Withdrawn) An automated securities trading system as recited in claim 1

further comprising means for receiving market data and storing said market data in a

database to be used in the component portion of a decision model.

5.   (Withdrawn) An automated securities trading system as recited in claim 1 further comprising means for receiving and storing historical data.

6.   (Withdrawn) An automated securities trading system as recited in claim 1 further comprising means for initiating a floating stop loss process.

7.   (Withdrawn) An automated securities trading system as recited in claim 1 further comprising means for recording the transaction upon execution of the transaction.

8.   (Withdrawn) An automated securities trading system as recited in claim 1 further comprising means for monitoring the status of a transaction order prior to execution of the transaction order.

9.   (Withdrawn) An automated securities trading system as recited in claim 1 wherein said means for automatically generating a transaction order comprises:

means for generating a transaction order selected from a group consisting of a market order, bid, ask, preference, SOES order, and limit order;

means for determining which transaction order of said group to submit to the market by considering the group consisting of factors from price momentum, price advantage, availability of shares and activities of market makers;

means for submitting the order to an Internet brokerage; and,

means for submitting the order directly to the market and to electronic communication networks.

10.   (Withdrawn) An automated securities trading system comprising:

a network;

a market computer coupled to said network;

a market information computer coupled to said network; and

a computer for formulating a decision model for the security; monitoring real-time market data, in response to market data for the security and the decision model, automatically generating a transaction order, and transmitting the transaction order to a market computer.

11.   (Withdrawn) An automated securities trading system as recited in claim 10 wherein said network comprises the Internet.

12.   (Withdrawn) An automated securities trading system as recited in claim 10 wherein said decision model comprises at least one level having one or more components.

13.   (Withdrawn) An automated securities trading system as recited in claim 10 wherein said components are selected from the group consisting of price, volume, bids, asks, spread, number of shares at each price level of bid or ask, time of posting of each bid or ask, time of sales and number of shares sold, and actions of market makers.

14.   (Withdrawn) An automated securities trading system as recited in claim 10 wherein said computer records the transaction upon execution of the transaction.

15.   (Withdrawn) An automated securities trading system as recited in claim 10 wherein said computer monitors the market data and cancels an order if the market data as processed by the decision models indicates a trade is undesirable.

16.   (Withdrawn) An automated securities trading system as recited in claim 10 wherein said market computer and said market data computer are integral.

17. (Withdrawn) An automated securities trading system as recited in claim 10 wherein said market computer and said market information computer are accessed through a common source.

18. (Withdrawn) An automated securities trading system as recited in claim 17 wherein said common source is an Internet brokerage.

19. (Withdrawn) A method for trading a security comprising the steps of:

formulating a decision model for the security having a component portion;

monitoring real-time market data;

in response to market data for the security and said decision model, automatically generating a transaction order; and

transmitting the transaction order to a market computer.

20. (Withdrawn) A method as recited in claim 19 further comprising the steps of recording the transaction upon execution of the transaction.

21. (Withdrawn) A method as recited in claim 19 wherein said transaction order is selected from the group consisting of a buy order, a sell order, a sell short order, and a buy to cover order.

22. (Withdrawn) A method as recited in claim 19 wherein the step of formulating a decision model comprises the step of weighting data used in the component portion of the decision models.

23. (Withdrawn) A method as recited in claim 22 wherein said step of weighting comprises the step of assigning a function of market data to allow combining a weighted data component with one or more other weighted data components.

24. (Withdrawn) A method as recited in claim 19 wherein the step of formulating a decision model comprises the step of establishing an intersection or interaction of data to be used in the component portion of the decision model, said intersection or interaction accomplished by assigning a function of market data to a component so that it can be measured against another component.

25. (Withdrawn) A method as recited in claim 19 wherein the step of formulating a decision model comprises the step of establishing a component to produce a singular value, said singular value being a function of security or market data.

26. (Withdrawn) A method as recited in claim 19 further comprising the steps of;

monitoring the transaction order until the order is filled;

monitoring the market data; and

canceling the transaction order if the market data or decision models indicate a trade is undesirable.

27. (Withdrawn) A method as recited in claim 19 further comprising the step of establishing a floating stop loss level.

28. (Withdrawn) A method as recited in claim 24 wherein said floating stop level comprises a dynamic floating stop loss.

29. (Withdrawn) A method as recited in claim 19 further comprising the step of testing decision models prior to entering into transactions by processing data through decision models and making pseudo transactions that are recorded in the transaction database.

30. A method for trading a security through a network accessible brokerage, comprising:

receiving from a client of the network accessible brokerage at least one computer implemented decision model for the security wherein the decision model comprises a mathematical function for receiving data and providing at least one value wherein the at least one value is compared to a decision point for deciding to buy or sell the security;

inputting data into the decision model;

computer implemented monitoring the decision model for the decision to buy the security wherein monitoring the decision model comprises comparing the at least one value to the decision point;

in response to monitoring said decision model, automatically generating a buy transaction order for the security; and

automatically transmitting the buy transaction order to a market computer;

after the step of transmitting the buy transaction, monitoring the decision model;

in response to monitoring said decision model, automatically generating a sell transaction order for the security; and

automatically transmitting the sell transaction order to the market computer.

31. A method as recited in claim 30 wherein the step of generating a transaction order comprises after the step of generating a sell order;

monitoring the sell order until the order is filled;

monitoring the decision model; and

canceling the sell order if the decision model indicates a trade is undesirable.

32. A method as recited in claim 30 further comprising after the step of transmitting the buy transaction order to the market computer:

confirming the buy transaction;

initiating a floating stop loss;

monitoring the floating stop loss for a stop loss decision to sell the security;

if a stop loss decision to sell is reached then automatically transmitting a stop loss sell transaction order for the security to the market computer.

33. A method as recited in claim 32 wherein said floating stop loss comprises a dynamic stop loss.

34. (Withdrawn) An automated securities trading system coupled to a market computer and a data source computer comprising:

an Internet trading computer coupled to the market computer and the data source computer; and

a user terminal coupled to said Internet trading computer;

said Internet trading computer programmed to store decision models input through said user terminals, said Internet trading computer monitoring real-time market data and in response to said market data, automatically generating a transaction order and transmitting said transaction order to said market computer.

35. A process for automated trading of a security through a brokerage computer system in communication with a client computer system, comprising:

providing a brokerage having a brokerage computer system for transacting orders to buy and sell securities, wherein the brokerage computer system is in communication with a plurality of client computer systems;

receiving to the brokerage computer system from the client computer system at least one computer implemented buy decision model for the security;

receiving to the brokerage computer system from the client computer system at least one computer implemented sell decision model for the security;

providing a computer implemented monitoring process on the brokerage computer system for monitoring the decision models for a buy decision and/or a sell decision;

providing a computer implemented transaction approval process on the brokerage computer system for determining after the decision to buy and/or sell the security is made if a transaction to buy or sell the security is appropriate;

providing a computer implemented transaction submission process on the brokerage computer system for submitting a transaction to buy or sell the security to a market computer system and monitoring the transaction until it is completed;

inputting data into the buy decision model and the sell decision model wherein the data comprises data for the security wherein the data is input into the decision models at the brokerage computer system;

monitoring the decision models through the monitoring process for the buy decision and/or the sell decision;

if the buy decision is reached then determining through the transaction approval process if a buy transaction is appropriate and if so then automatically submitting to a

market computer system through the transaction submission process an order to buy the security;

if the sell decision is reached then determining through the transaction approval process if a sell transaction is appropriate and if so then automatically submitting to a market computer system through the transaction submission process an order to sell the security; and

continuing inputting data into the decision models, monitoring the decision models through the monitoring process, and repeating the steps if the buy decision is reached or the sell decision is reached until the process is stopped.

36. (Withdrawn) The automated process for trading a security of claim 35, wherein the transaction approval process, the transaction submission process, the buy decision model, and the sell decision model are on a computer system for a network accessible brokerage wherein the buy decision model and the sell decision model are provided to the network accessible brokerage through a client computer system in communication with the network accessible brokerage.

37. A process for automated trading a security through a network accessible brokerage in communication with a client comprising the steps of:

a. providing a network accessible brokerage comprising a brokerage computer system;

b. accepting to the brokerage computer system from the client one or more computer implemented decision models for a security wherein the one or more decision

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models comprise logic for deciding to buy the security and logic for deciding to sell the security;

c.   providing on the brokerage computer system a computer implemented monitoring process for monitoring the one or more decision models for a decision to buy the security and/or a decision to sell the security;

d.   providing on the brokerage computer system a computer implemented transaction approval process for determining if a transaction to buy or sell the security is appropriate once the decision to buy or the decision to sell has been made;

e.   providing on the brokerage computer system a computer implemented transaction submission process for submitting the transaction to buy or sell the security to a market computer system and monitoring the transaction until it is completed;

f.   inputting data into the one or more decision models, wherein the data is input into the one or more decision models until the process is stopped;

g.   monitoring the one or more decision models using the monitoring process, for the decision to buy and/or the decision to sell;

h.   if the decision to buy or the decision to sell is reached then determining using the transaction approval process if a buy or sell transaction is appropriate and if so then automatically submitting using the transaction submission process an order to buy or sell the security; and

i.   iteratively repeating above steps g. and h. until the process is stopped.

38.   The process of claim 37 wherein the decision model comprises a moving average calculation of at least a portion of the data.

39.   The process of claim 37 wherein the decision model comprises a weighted data process.

40.   The process of claim 37, further comprising:

after the steps of submitting an order to buy the security and monitoring the transaction until it is completed, automatically initiating a floating stop loss process for selling the security wherein either the floating stop loss process or the decision model can reach a decision to sell the security.

41.   The floating stop loss of claim 40 wherein the floating stop loss is a dynamic floating stop loss.

42.   The process of claim 37 further comprising the step of validating the data before the step of inputting the data into the decision model.

43.   The process of claim 37 wherein the decision model further comprises logic to sell short the security and logic to buy to cover the security.

44.   An automated trading system for trading securities through an network accessible brokerage, the automated trading system comprising:

at least one client computer in communication with the automated trading system via the network wherein the client computer is operated by a client computer user;

at least one computer implemented decision model for deciding whether to buy or sell a security wherein the decision model comprises a mathematical function for receiving data and providing at least one value wherein the at least one value is compared to a decision point for deciding to buy or sell the security, wherein the at least one decision model enters a state comprising a buy state and a sell state;

a data input processor for receiving data from a data source and inputting the data into the decision model;
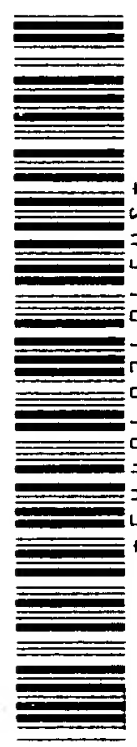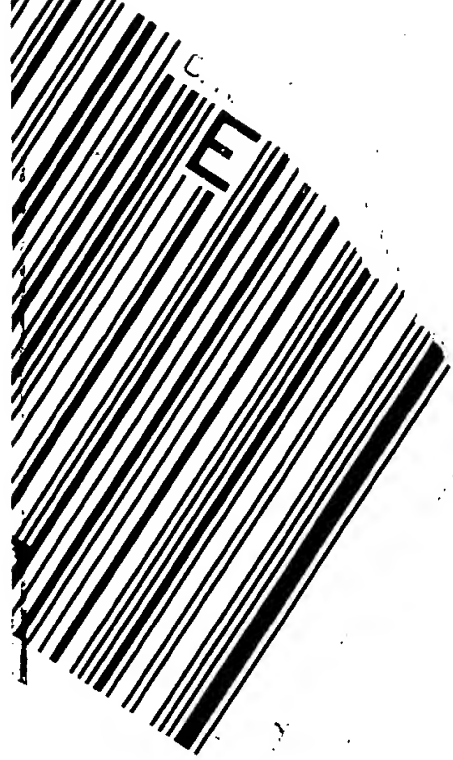
a computer implemented decision monitor for monitoring the state of the at least one decision model;

a computer implemented transaction approval processor for determining if a transaction to buy or sell the security is appropriate if the at least one decision model enters the buy state and/or the sell state; and

a computer implemented transaction submission processor for submitting a transaction to buy or sell the security if approved by the transaction approval processor, wherein the decision monitor continuously monitors the at least one decision model and the security is repeatedly bought and sold based on the state of the at least one decision model and the determination of the transaction approval processor.

45. The automated trading system of claim 44, wherein the logic of the decision model is defined by the user.

46. The automated trading system of claim 44, wherein the logic of the decision model comprises a moving average.

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lbs. ozs.	Acceptance Clerk Initials	Total Postage & Fees
No Delivery		$
☐ Weekend ☐ Holiday		

CUSTOMER USE ONLY
METHOD OF PAYMENT:

Express Mail Corporate Acct. No.

FROM: (PLEASE PRINT)
PHONE (

USPTO MAIL CENTER

— MAY 1 6 2005

EXPRESS MAIL LABEL DATE IN

PRESS HARD.
You are making 3 copies.

EXPRESS MAIL
UNITED STATES POSTAL SERVICE®

Post Office To Addressee

DELIVERY (POSTAL USE ONLY)

Delivery Attempt	Time
Mo. Day	☐ AM ☐ PM
Delivery Attempt	Time
Mo. Day	☐ AM ☐ PM
Delivery Date	Time
Mo. Day	☐ AM ☐ PM

RECEIVED

Employee Signature
MAY 1 7 2005

Employee Signature

USPTO MAIL CENTER

☐ **WAIVER OF SIGNATURE** *(Domestic Only)* Additional merchandise insurance is void if waiver of signature is requested. I wish delivery to be made without obtaining signature of addressee or addressee's agent (if delivery employee judges that article can be left in secure location) and I authorize that delivery employee's signature constitutes valid proof of delivery.

NO DELIVERY ☐ Weekend ☐ Holiday

_____
Customer Signature

Federal Agency Acct. No. or
Postal Service Acct. No.

TO: (PLEASE PRINT)   PHONE (

FOR PICKUP OR TRACKING CALL 1-800-222-1811 www.usps.com

EMS